AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions and listings of claims in the application.

Listing of Claims:

1 (currently amended). A communication apparatus, comprising:

a reference signal generating section that generates a first reference signal to enable a communicating party to estimate a propagation environment;

a transmitting section that transmits the first reference signal;

a storing section that stores a known signal known between the apparatus and the communicating party

a propagation estimating section that obtains correlation between the known signal and ~~estimates a first propagation estimation value of the propagation environment using~~ a second reference signal transmitted from the communicating party, and generates a delay profile as an estimation value of propagation environment;

a first data acquiring section that reads out first data associated with the delay profile generated in the propagation estimating section, from a reference table that associates the delay profile with the ~~generates~~ first data ~~using the first propagation estimation value~~ ; and

a decoding section that decodes a transmission signal encoded and transmitted using an estimation value of the propagation environment ~~a second propagation estimation value that is~~ estimated by the communicating party using the first reference

signal, to obtain second data using the first data read out by the first data acquiring section.

2-5 (canceled).

6 (currently amended). The communication apparatus according to claim [[5]] 1, wherein the first data acquiring section calculates convolution of ~~auto-correlation~~ correlation between the known signal and the second reference signal, and a quantization vector stored in the reference table, and selects and reads out a vector code as the first data by performing ~~performs~~ metric calculation using the delay profile and the quantization vector subjected to the convolution ~~, selects a vector code, and thereby generates the first data~~ .

7 (currently amended). The communication apparatus according to claim [[5]] 1, wherein the first data acquiring section performs orthogonal conversion on the delay profile generated in the propagation estimating section to condense signal components, and reads out ~~generates~~ the first data using [[the]] signal components.

8-12 (canceled).

13 (previously presented). A communication method, comprising:

generating, in a first communication apparatus, a first reference signal to enable a second communication apparatus to estimate a propagation environment ~~between the first communication apparatus and the second communication apparatus~~ ;

transmitting the first reference signal from the first communication apparatus to the second communication apparatus;

~~estimating, in the second communication apparatus, a first propagation estimation value of the propagation environment using the first reference signal;~~

~~generating, in the second communication apparatus, first data using the first propagation estimation value;~~

~~encoding second data and generating an encoded signal using the first data in the second communication apparatus;~~

~~estimating, in the first communication apparatus, a second propagation estimation value of the propagation environment using a second reference signal transmitted from the second communication apparatus;~~

~~generating third data using the second propagation estimation value; and~~

~~decoding the encoded signal transmitted from the second communication apparatus and acquiring the second data, using the third data.~~

storing, in the first communication apparatus, a known signal known between the first communication apparatus and the second communication apparatus;

obtaining, in the first communication apparatus, correlation between the known signal and a second reference signal transmitted from the second communication apparatus, and generating, in the first communication apparatus, a delay profile as an estimation value of the propagation environment;

reading out, in the first communication apparatus, first data associated with the generated delay profile, from a reference table that associates the delay profile with the first data ; and

decoding, in the first communication apparatus, a transmission signal encoded and transmitted using an estimation value of the propagation environment estimated by the second communication apparatus using the first reference signal, to second data using the first data read out.